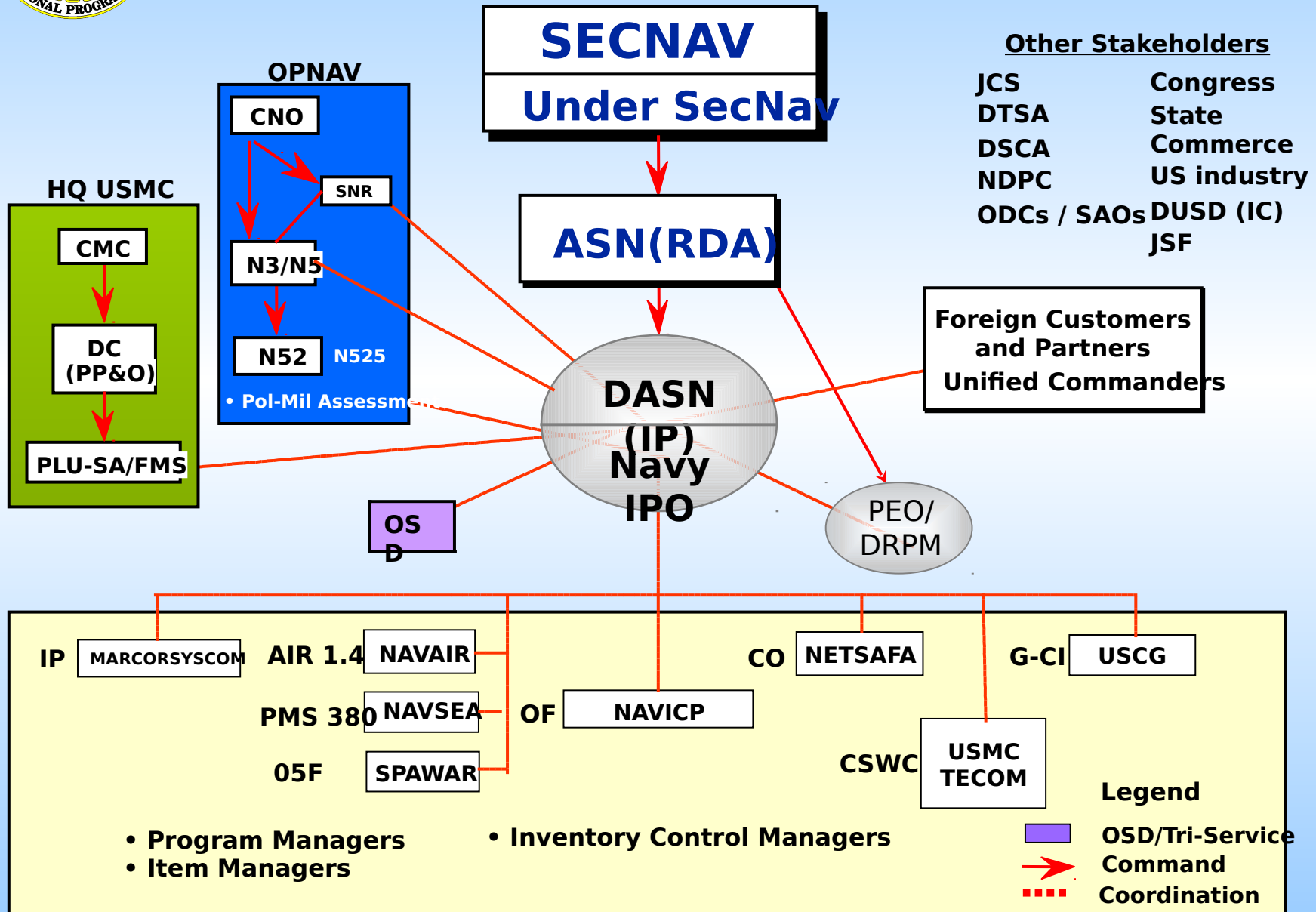# NAVY IPO
ROLE IN C4ISR COALITION INTEROPERABILITY

Gregg Bergersen

Director, C4ISR Programs

Navy International Program Office

18 May 2004

Where Do We Fit?

SECNAV

Under SecNav

Other Stakeholders

JCS   Congress
DTSA   State
DSCA   Commerce
NDPC   US industry
ODCs / SAOs DUSD (IC)
             JSF

OPNAV

CNO

SNR

N3/N5

N52   N525

• Pol-Mil Assessme...

HQ USMC

CMC

DC (PP&O)

PLU-SA/FMS

ASN(RDA)

Foreign Customers and Partners
Unified Commanders

DASN (IP) Navy IPO

PEO/ DRPM

OSD

IP MARCORSYSCOM   AIR 1.4 NAVAIR   CO NETSAFA   G-CI USCG

PMS 380 NAVSEA   OF   NAVICP

05F SPAWAR   CSWC USMC TECOM

• Program Managers
• Item Managers

• Inventory Control Managers

Legend

	OSD/Tri-Service
→	Command
····	Coordination

What We Do

- Transfer C4ISR goods and services
  - Phase 1:   Assess
  - Phase 2:   Analyze and Plan
  - Phase 3:   Develop/Execute procurement program
- Types of transfer mechanism
  - Foreign Military Sales (Gov't – to – Gov't)
  - Direct Commercial Sales (Industry – to – Gov't)
  - Other Programs (Cooperation, Joint, etc.)

Multifunctional Information Distribution System (MIDS)

- **To provide Link 16 compatibility for: aircraft carriers, cruisers, F/A-18, F-15, F-16, Eurofighter, Rafale, and Patriot**

- **MIDS Production MOU provides for cooperative production of MIDS-LVT (Low Volume Terminal)**
  - **Production lines established in Europe and U.S.**
  - **US suppliers DLS and ViaSat in production**
  - **EuroMIDS rolled out first terminal in April 2004**

- **The Partners plan to secure 2,700 units and also anticipate significant third party sales**

US   FR   IT   GE   SP

Capabilities Alignment

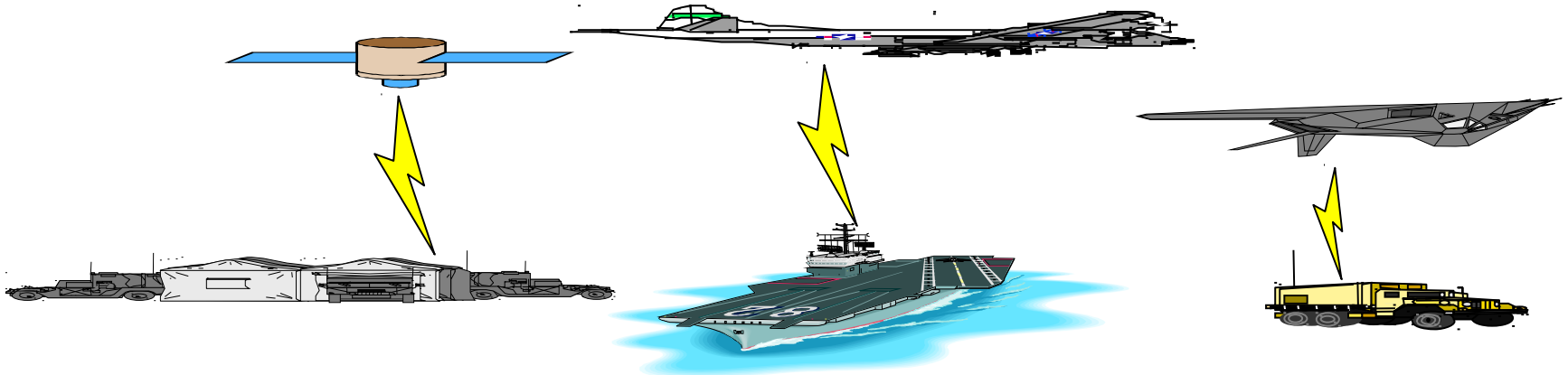**Sea Power 21 Pillars: Sea Strike, Sea Shield, Sea Basing, and Force Net**

Coalition Seapower 21 Capabilities

Sea Strike

Conduct Strike Ops

Conduct Special Ops

Conduct Offensive Information Ops (EW/CNA)

Provide Naval   Fires

Provide Indigenous Amphibious Assault Forces

Conduct Ship to Objective Maneuver (STOM)

Sea Shield

Protect Against SOF/Terrorist Threats	**Counter Minefields from Deep to Shallow Water**
Provide Search & Rescue	**Conduct Mining Operations**
Provide Self-Defense vs. Surface Threats	**Conduct Expeditionary MIW**
Conduct Offensive Operations vs. Surface Threats	**Provide Self-Defense Against Air and Missile Threats**
Conduct Expeditionary MIO/LIO Ops	**Provide Overland Air and Missile Defense**
Conduct Escort Ops	**Conduct Sea-based Ballistic Missile Defense**
Neutralize Submarine Threats in the Littorals	**Provide Area/Task Group Air and Missile Defense**
Neutralize Open Ocean Submarine Threats	

Sea Basing

Provide Sea Base Force Protection

Provide Administrative Sea Lift

Provide Sustainment for Operations at Sea

Provide Sustainment for Operations Ashore

FORCEnet

Provide Network Protection

Provide Information Transfer

Provide Deployable ISR Assets

Share ISR Across the Force

Participate in Mission Planning

Maintain Operational Level Situational Awareness

Maintain

Command, Control, Communications, and Intelligence Transformation

Legacy Stove-Piped

Legacy Comms Applications	Legacy C² Applications	User Mission Applications
User	User	User

Systems Determine Use/Operations

- As Is (2000)
- Manual Stovepipe Operations
- Non Coherent Architectures
- Limited Operational Capabilities
- Islands of C² Capability, Air/Land/Sea

"Legacy"

Command, Control, Communications, and Intelligence Transformation

Interoperable Systems

C^2 Systems Built to Functional Capabilities	Crossbanding & Gateways

Product Requests-Based (User)

Users Define Operations, Response-Built Systems

- Evolved Baseline
- Evolving C^2 capabilities
- Baseline Global Information Grid (GIG) capability with Joint C^2 Capability
- Improved Communications
- Information Assurance

"Evolving"

Command, Control, Communications, and Intelligence Transformation

Network Centric Operations

Networked Information

Production	Storage	Pull Delivery

Collaboration / Profiling / Proactive

Domain Specific Applications

Information Needs Pulled by User

Enterprise Definition of Operations and Systems

- **Fully Integrated & Automated C^{3}I**
- **Flexible and Adaptable to Missions**
- **Interoperable at Application Level**
- **Full Awareness & Accessibility**
- **Information Operations**

"Objective"

Command, Control, Communications, and Intelligence Transformation

Legacy Stove-Piped

Legacy Comms Applications	Legacy C² Applications	User Mission Applications
User	User	User

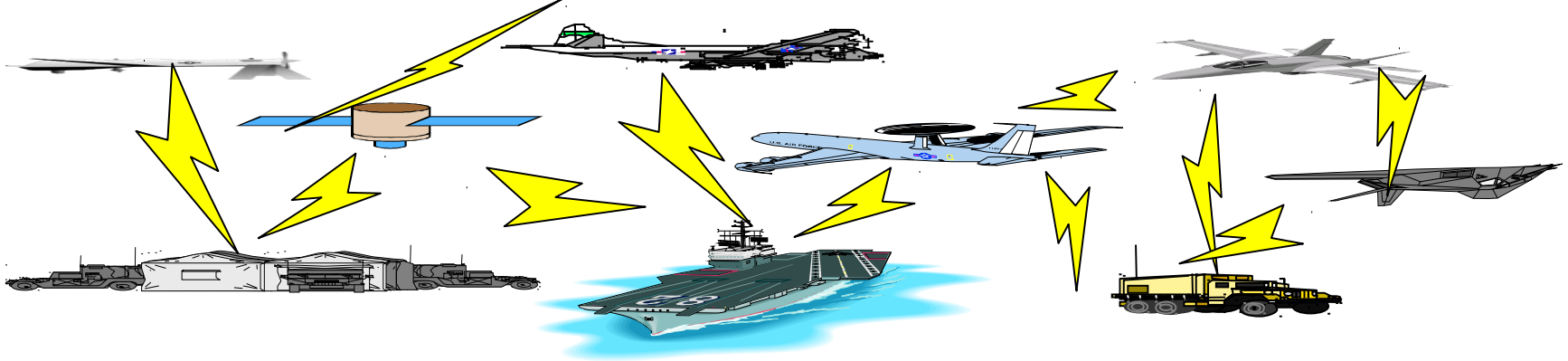### Systems Determine Use/Operations

- *As Is (2000)*
- **Manual Stovepipe Operations**
- **Non Coherent Architectures**
- **Limited Operational Capabilities**
- **Islands of C² Capability, Air/Land/Sea**

Interoperable Systems

C² Systems Built to Functional Capabilities	Crossbanding & Gateways
Product Requests-Based (User)	

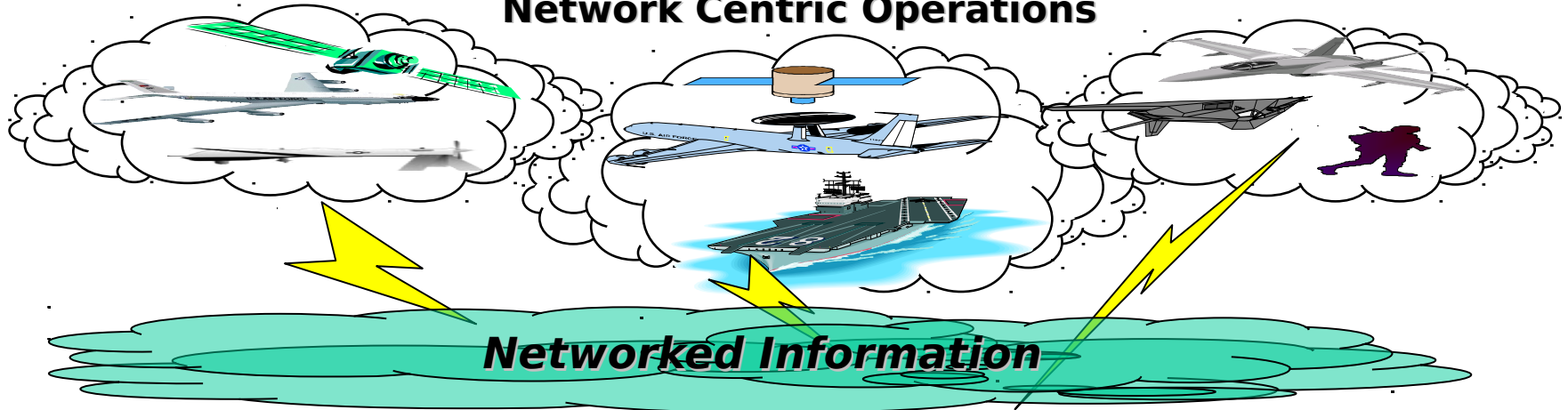### Users Define Operations, Response-Built Systems

- *Evolved Baseline*
- **Evolving C² capabilities**
- **Baseline Global Information Grid (GIG) capability with Joint C² Capability**
- **Improved Communications**
- **Information Assurance**

Network Centric Operations

Networked Information

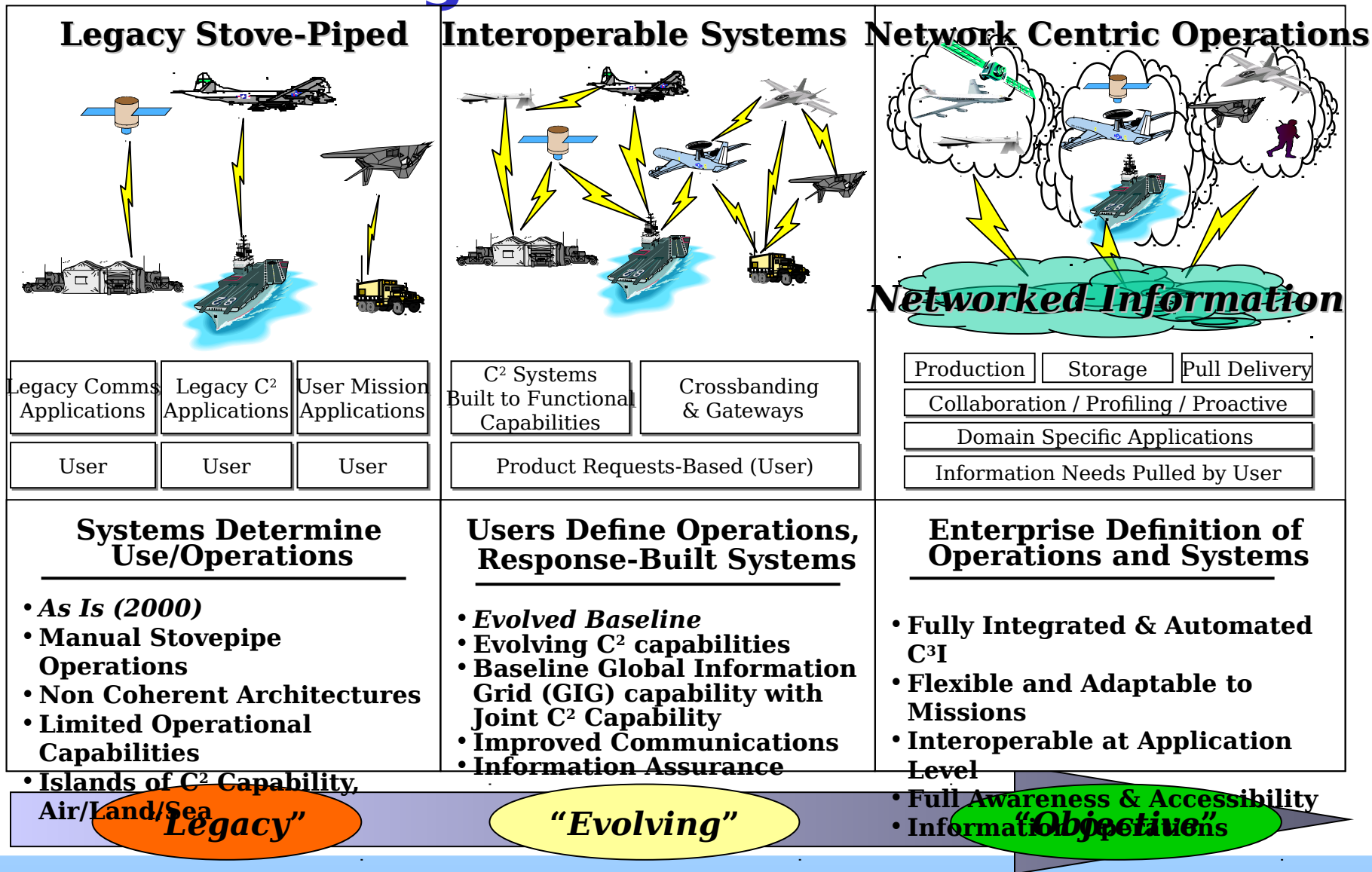| Production	Storage	Pull Delivery
Collaboration / Profiling / Proactive		
Domain Specific Applications		
Information Needs Pulled by User		

Enterprise Definition of Operations and Systems

- **Fully Integrated & Automated C³I**
- **Flexible and Adaptable to Missions**
- **Interoperable at Application Level**
- **Full Awareness & Accessibility**
- **Information Operations**

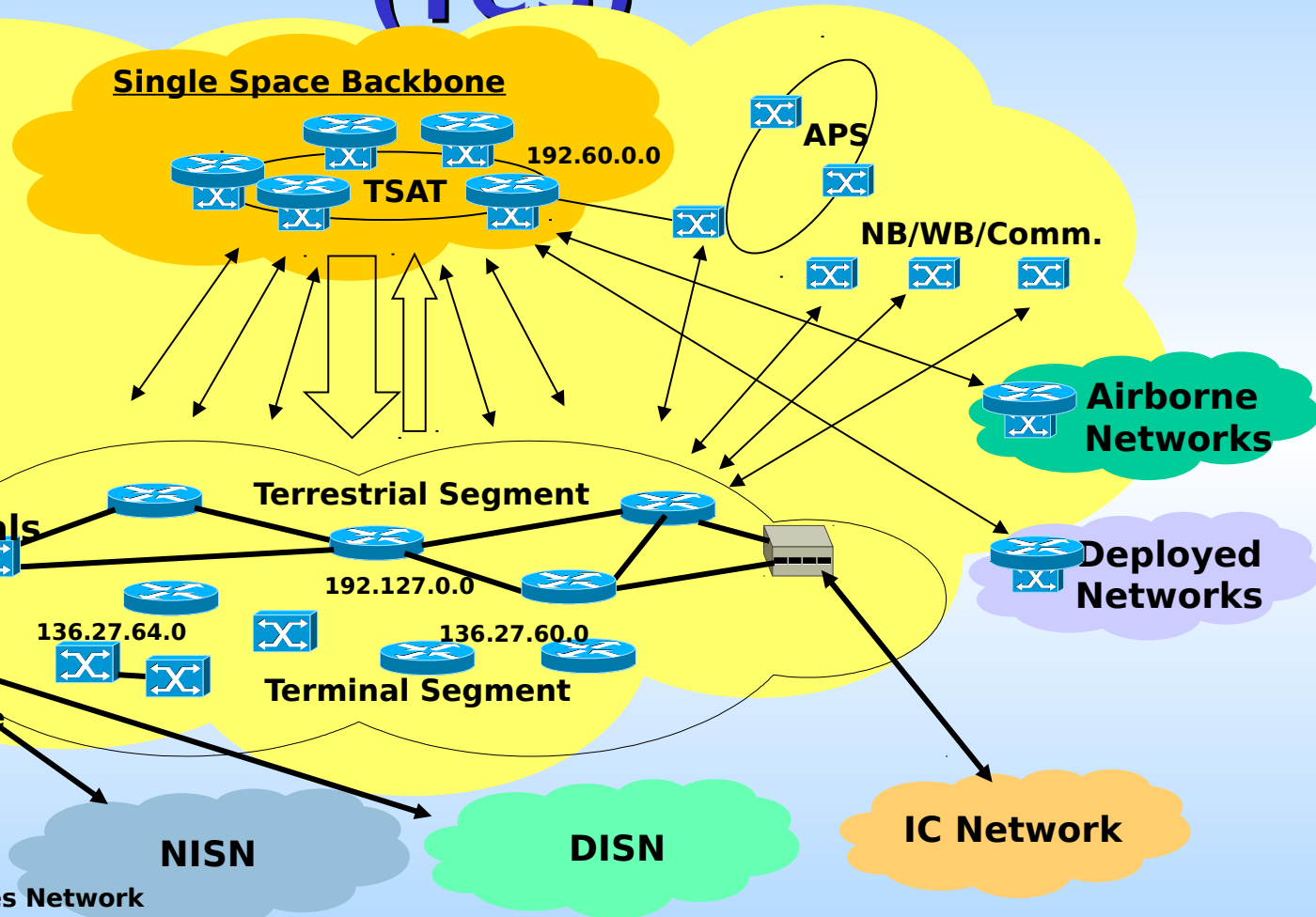*"Legacy"*   *"Evolving"*   *"Objective"*

Transformational Communications System (TCS)

Key Net-centric capabilities:

- IP routers in space
- Packets (& circuits)
- part of "black core" comm net
- supports IPv6
- supports TPPU
- supports SCA terminals
- dynamic routing

Single Space Backbone

192.60.0.0

TSAT

APS

NB/WB/Comm.

Terrestrial Segment

192.127.0.0

136.27.64.0

136.27.60.0

Terminal Segment

Airborne Networks

Deployed Networks

NISN

DISN

IC Network

TSAT – Transformational Satellite
APS – Advanced Polar System
NB – Narrow Band
WB – Wide Band
Comm. – Commercial
IC – Intelligence Community
NISN – NASA Information Services Network
DISN – Defense Information Services Network
TPPU –Task, Post, Process, Use

Connect Anyone, Anywhere, Anytime

The Global Information Grid

TCS

R R R R R R R

R

R

JTRS

JTRS

R

R R R

R R

R R

R

JTRS

Radio

Land Line

JTRS UGS

GIG-BE

R = Internet Router

Task *T*ask
Process *P*ost
Exploit *P*rocess
Disseminate *U*se

Net-Centricity Payoffs
- **Faster Decision Making/TPPU cycles**
- **Smarter Decisions based on . . .**
  - **Access to more quality information**
- **Better Collaboration based on . . .**
  - **Shared Battlespace Awareness**
  - **Rapid Community of**

C4ISR Releasability Elements

- Communications Security (COMSEC) or Information Security (INFOSEC)
  – Committee for National Security Systems (CNSS)
- Secure Operational Data
  – National Disclosure Policy Committee (NDPC)
- System Performance Characteristics/Applications
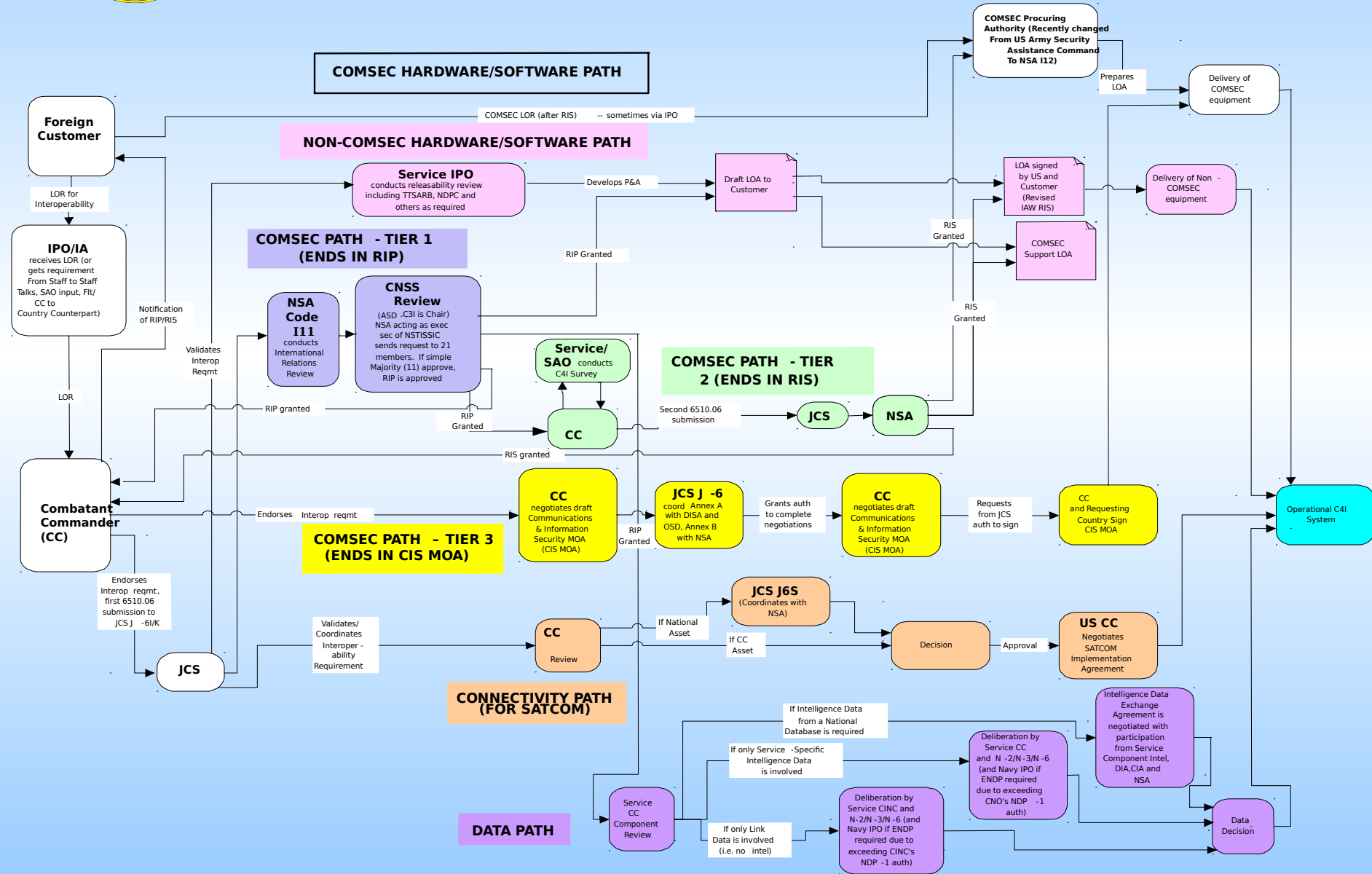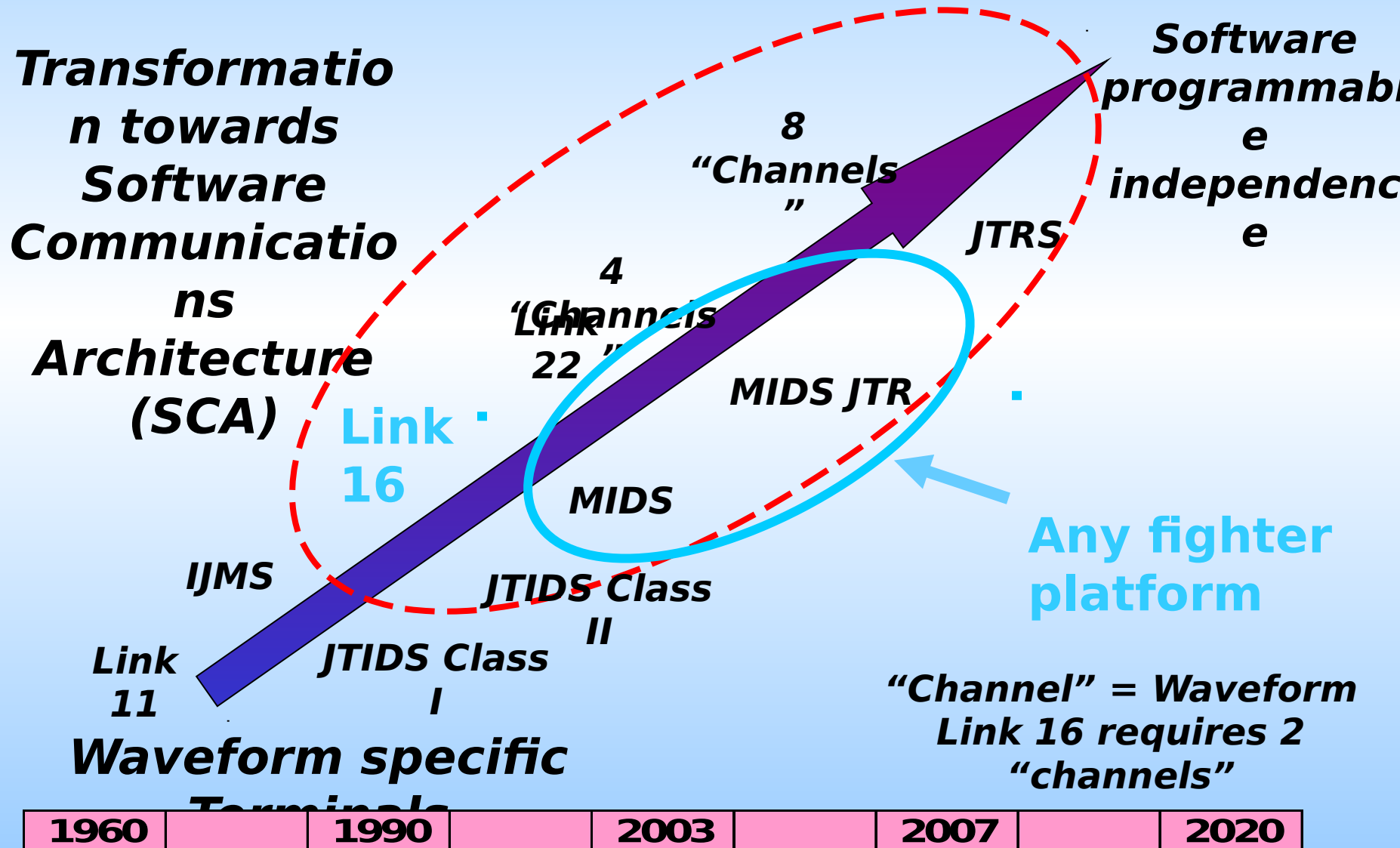 – NDPC
- Joint Message Standards
  – Defense Information Systems Agency (DISA)
- Intelligence Data
  – Defense Intelligence Agency (DIA)

C4ISR Release Process

COMSEC HARDWARE/SOFTWARE PATH

NON-COMSEC HARDWARE/SOFTWARE PATH

COMSEC PATH - TIER 1 (ENDS IN RIP)

COMSEC PATH - TIER 2 (ENDS IN RIS)

COMSEC PATH – TIER 3 (ENDS IN CIS MOA)

CONNECTIVITY PATH (FOR SATCOM)

DATA PATH

COMSEC Procuring Authority (Recently changed From US Army Security Assistance Command To NSA I12)

Prepares LOA

Delivery of COMSEC equipment

COMSEC LOR (after RIS) -- sometimes via IPO

Foreign Customer

LOR for Interoperability

IPO/IA receives LOR (or gets requirement From Staff to Staff Talks, SAO input, Flt/ CC to Country Counterpart)

Notification of RIP/RIS

LOR

Service IPO conducts releasability review including TTSARB, NDPC and others as required

Develops P&A

Draft LOA to Customer

LOA signed by US and Customer (Revised IAW RIS)

Delivery of Non - COMSEC equipment

RIP Granted

RIS Granted

COMSEC Support LOA

RIS Granted

Validates Interop Reqmt

NSA Code I11 conducts International Relations Review

CNSS Review (ASD .C3I is Chair) NSA acting as exec sec of NSTISSIC sends request to 21 members. If simple Majority (11) approve, RIP is approved

Service/ SAO conducts C4I Survey

Second 6510.06 submission

JCS

NSA

RIP granted

RIP Granted

CC

RIS granted

Combatant Commander (CC)

Endorses   Interop reqmt

CC negotiates draft Communications & Information Security MOA (CIS MOA)

JCS J -6 coord Annex A with DISA and OSD, Annex B with NSA

Grants auth to complete negotiations

CC negotiates draft Communications & Information Security MOA (CIS MOA)

Requests from JCS auth to sign

CC and Requesting Country Sign CIS MOA

RIP Granted

Endorses Interop reqmt, first 6510.06 submission to JCS J   -6I/K

Validates/ Coordinates Interoper - ability Requirement

CC Review

If National Asset

If CC Asset

JCS J6S (Coordinates with NSA)

Decision

Approval

US CC Negotiates SATCOM Implementation Agreement

JCS

Operational C4I System

If Intelligence Data from a National Database is required

If only Service -Specific Intelligence Data is involved

Intelligence Data Exchange Agreement is negotiated with participation from Service Component Intel, DIA,CIA and NSA

Deliberation by Service CC and N -2/N -3/N -6 (and Navy IPO if ENDP required due to exceeding CNO's NDP -1 auth)

Service CC Component Review

If only Link Data is involved (i.e. no intel)

Deliberation by Service CINC and N-2/N -3/N -6 (and Navy IPO if ENDP required due to exceeding CINC's NDP -1 auth)

Data Decision

C4ISR Capability Roadmap – Data Links

Transformation towards Software Communications Architecture (SCA)

Software programmable independence

8 "Channels"

JTRS

4 "Channels"

Link 22

MIDS JTR

Link 16

MIDS

IJMS

JTIDS Class II

Any fighter platform

Link 11

JTIDS Class I

Waveform specific Terminals

"Channel" = Waveform Link 16 requires 2 "channels"

1960	1990	2003	2007	2020

Seapower 21 Coalition Capabilities

FORCEnet	
Capabilities	**Examples of Products**
Provide Network Protection	Information Assurance
Provide Information Transfer	Data Links --- JTRS
Provide Deployable ISR Assets	Global Hawk, Broad Area Maritime Surveillance (BAMS), Multi-Mission Maritime Aircraft (MMA)
Share ISR Across the Force	Data Links --- JTRS
Participate in Mission Planning	Global Command and Control System (GCCS)
Maintain Operational Level Situational Awareness	Common Operational Picture (COP)
Maintain Tactical Level Situation Awareness	Common Tactical Picture (CTP)

Phase I:
C4ISR Baseline Assessment

- FMS case to survey customer C4ISR infrastructure (including C2 nodes, platforms, connectivity paths, message sets, COCOM interoperability requirements, Gateways, etc.)
  - L-16 interaction w/ existing C4ISR infrastructure
- U.S. Team chartered by DSCA with participation from Services, COCOM, US Industry, Customer C2 Experts, Foreign Government
- Ascertain Customer CONOPS
  - May require US contractor to tailor CONOPS
- Develop cost/schedule/performance for Phase II

Phase II:
Analyze Requirements and Plan Procurement Phase

- Develop Notional Architecture
  - Connectivity Paths
  - Gateways
  - Platforms
  - C2 Nodes
- Refine CONOPS
- Develop Procurement Strategy
- Develop Message Sets
- C4ISR Orientation Training (e.g., Link-16)
- Cost/Schedule/Performance Phase III: Procurement

Phase IIIA: Demonstration

- Design Demonstration on Limited Number of Platforms and C2 Nodes

- Demonstrate Robustness of Link-16 to Customer's Military Services and Political Agencies

Phase IIIB: Execution of Procurement Activities

- Procure Hardware, Software, Engineering Services, etc.
- Install, Integrate, Test
- Load, Test, Train
- Integrated Logistics Support (ILS)
- Life Cycle Support
- Full IOC

Conclusion

- C4ISR is
  - … more than buying hardware
  - … more than buying a system
  - … part of an overall plan to operate or exercise together
- Within this context, the DON is capable and ready to assist in planning for interoperability including development of architectures, CONOPs, system design, migration paths and selection of technology transfer vehicles (FMS, DCS, Cooperation, or Hybrid)